

REMARKS

Claim 1 has been amended to better define the claimed invention and to better distinguish the claimed invention over the prior art. Claim 6 has been added to further scope the invention. No new matter has been entered by any of the foregoing amendments.

The rejection of claims 1-5 under 35 USC §103(a) as being unpatentable over Nakahara in view of U.S. Patent No. 5,777,428 to Farahmandi et al. is in error. The Examiner indicates, “Farahmandi teaches the use of a composite electrode because this electrode structure provides for a high power output and power density rating providing sufficient motivation for combining. Furthermore the composite electrode is fabricated by carbon cloth preform or a carbon paper preform (auxiliary layer) which is impregnated with molten aluminum (formed and integrated on an aluminum electrode) meeting the limitations of the claim.”

However, Farahmandi discloses a capacitor comprising aluminum/carbon composite electrodes 12 and 14, and current collector plates 22 and 24 (lines 46-49 in column 5). The aluminum/carbon composite electrode 12/14 of Farahmandi is an electrode active material, which corresponds to the cathode 5 of the present invention.

On the other hand, in the present invention, the cathode collector 6 is disposed between the cathode metal collector 7 and the cathode 5, and has a function that reduces the internal resistance of the power storing device. Therefore, Farahmandi neither teaches nor suggests the cathode collector 6 of the present invention.

Claim 1 requires, in part, “a non-porous cathode collector having conductive auxiliary layer, where carbon is present as a main component formed and integrated on an aluminum electrode.” On page 3 of the Office Action, the Examiner admits that Nakahara fails to disclose

HAYES SOLOWAY P.C.
3450 E. SUNRISE DRIVE
SUITE 140
TUCSON, AZ 85718
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

this requirement. To overcome the shortcomings of Nakahara, the Examiner asserts that Farahmandi discloses “a capacitor having an aluminum impregnated with carbon electrode to form a composite electrode attached to the current collector plate to form a high performance double layer capacitor.” However, Farahmandi falls short of disclosing the above mentioned requirements of claim 1.

Specifically, Farahmandi discloses an “aluminum/carbon composite” that is “fabricated from a carbon cloth preform or carbon paper preform which is impregnated with molten aluminum.” Col. 6, lines 54-58. Farahmandi discloses that the aluminum/carbon composite is “sufficiently porous so that an electrolytic solution, preferably a nonaqueous electrolytic solution, infiltrates the pores of the activated carbon fibers.” Col. 7, lines 37-41. That is to say, the aluminum/carbon composite electrode 12/14 of Farahmandi is produced by impregnating aluminum in the carbon fiber cloth preform or the carbon fiber paper preform by using plasma splaying, liquid infiltration or dipping technique (line 65 in column 7 to line 6 in column 6). The impregnated aluminum is evenly distributed in the preform (lines 35-36 in column 7). In other words, Farahmandi teaches a porous carbon substrate impregnated with aluminum. On the other hand, in the present invention, the cathode collector is produced by forming a conductive auxiliary layer on aluminum. The structure of the cathode collector in the present invention is completely different from that of the cathode collector in Farahmndi. Therefore, it is unreasonable that the carbon cloth preform or the carbon paper preform of Farahmandi corresponds to the auxiliary layer of the present invention. Thus, as Farahmandi fails to disclose a cathode collector as required by Applicants’ claim 1, no combination of Nakahara

HAYES SOLOWAY P.C.
3450 E. SUNRISE DRIVE
SUITE 140
TUCSON, AZ 85718
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

and Farahmandi reasonably could be said to teach or support claim 1, or any of the claims which depend thereon. Accordingly, withdrawal of the rejection is respectfully requested.

The foregoing Amendment makes no claim changes that would require further search by the Examiner.

Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action is respectfully requested.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,

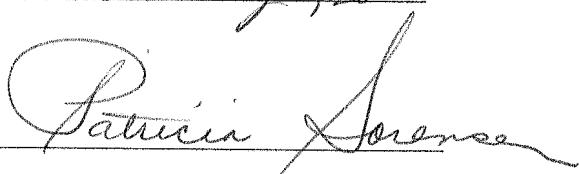


Norman P. Soloway
Attorney for Applicants
Reg. No. 24,315

Customer No. 27,667

CERTIFICATE OF ELECTRONIC FILING

I hereby certify that this correspondence is being deposited with the United States Patent Office via the electronic filing procedure on February 5, 2010.

By: 

HAYES SOLOWAY P.C.
3450 E. SUNRISE DRIVE
SUITE 140
TUCSON, AZ 85718
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567